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10/678,505	10/03/2003	Vicenc Gaitan Alcalde	100017/00001	1944

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EXAMINER	
QIN, JIANCHUN	
ART UNIT	**PAPER NUMBER**
2837	

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Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	**Application No.** 10/678,505	**Applicant(s)** ALCALDE ET AL.
	Examiner Jianchun Qin	**Art Unit** 2837

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *7/7/04*.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Blum et al. (U.S. Pat. No. 5918223).

With respect to claim 1:

Blum et al. teach a method of analyzing music, said method comprising the steps of: a) providing a digital database comprising a plurality of digital song files (col. 5, lines 50-62); b) selecting one of said song files for analysis (col. 5, lines 64-67 and col. 6, lines 1-5); c) dividing said selected song file into a plurality of discrete parts (col. 5, lines 50-62 and col. 24, lines 25-34); d) using Fast Fourier Transform techniques on each part of said selected song file to establish a plurality of coefficients, wherein said coefficients are representative of predetermined characteristics of said selected song (col. 6, lines 56-67; col. 7, lines 1-7 and lines 56-67 and col. 8, lines 1-6); e) determining an average value for each characteristic from each said part of said selected song file (col.6, lines 24-44); f) compiling a song vector comprising a sequential list of said average values for each said characteristic for said selected song file (col. 6, lines 45-52 and col. 8, lines 56-65); and g) repeating steps b) through f) for each song in said database (col. 6, lines 6-9).

With respect to claim 2:

The teaching of Blum et al. further includes that said characteristics are selected from the group consisting of: brightness, bandwidth, tempo, volume, rhythm, low frequency, noise, and octave (col. 3, lines 4-21; col. 6, lines 23-44 and lines 65-67 and col. 7, lines 1-7).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Blum et al. (U.S. Pat. No. 5918223) in view of Kruse (U.S. Pub. No. 20040039913).

Blum et al. teach the subject matter discussed above. Blum et al. do not mention explicitly: regarding claim 3, said digital database comprises a plurality of compressed digital song files, said method further comprising the step of: b1) decompressing said selected song file prior to dividing said selected song file into a plurality of discrete parts.

Kruse teaches a method of analyzing compressed digital audio content, including the step of decompressing selected song file prior to analyzing said selected song file (section 0021).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teaching of Kruse in the invention of Blum et al. in order to apply the Blum method to digital audio contents that have large volumes and are transmitted and stored in compressed format (Kruse, section 0002, line 20-28).

5. Claims 4-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blum et al. (U.S. Pat. No. 5918223) in view of Weare (U.S. Pat. No. 20030045953).

With respect to claim 4:

Blum et al. teach the subject matter discussed above. Blum et al. do not mention explicitly: said digital song files are formatted as linear PCM audio data.

Weare teaches a system and method for providing automatic classification of digital song files, including: said digital song files are formatted as linear PCM audio data (section 0087).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teaching of Weare in the invention of Blum et al. in order to provide a standard digital scheme to facilitate the transmission and processing of analog audio data efficiently (Weare, section 0087).

With respect to claim 5:

Blum et al. teach a method of determining a user's music preference, said method comprising the steps of: a) providing a digital database comprising a plurality of digital song files (col. 5, lines 50-62); b) mathematically analyzing each said digital song file to determine a numerical value for a plurality of selected characteristics (col. 6, lines 56-67; col. 7, lines 1-7 and lines 56-67 and col. 8, lines 1-6); c) compiling a song vector comprising a sequential list of said numerical values for each of said plurality of selected characteristic for each said song file (col. 6, lines 45-52 and col. 8, lines 56-65); d) dividing each said song file into portions of selected size and mathematically analyzing each said portion to determine a numerical value for said plurality of selected characteristics for each said portion (col. 5, lines 50-62 and col. 24, lines 25-34, col. 6, lines 56-67; col. 7, lines 1-7 and lines 56-67 and col. 8, lines 1-6 and col. 24, lines 56-64); e) selecting and storing a representative portion of each said song file wherein said representative portion substantially mathematically matches said song file (col. 17, lines 20-24).

Blum et al. do not mention expressly that: f) choosing two dissimilar representative portions and enabling said user to listen to both representative portions; g) permitting said user to indicate which of said two dissimilar representative portions said user prefers; and h) repeating steps f) and g), as necessary, to establish a taste vector for said user comprising song characteristics that said user prefers.

Weare teaches a system and method for providing automatic classification of digital song files, including steps of: f) choosing two dissimilar representative portions and enabling said user to listen to both representative portions (sections 0055, 0059, 0065, 0086, 0097 and 0113); g) permitting said user to indicate which of said two dissimilar representative portions said user prefers (sections 0055, 0059, 0065, 0086, 0097 and 0113); and h) repeating steps f) and g), as necessary, to establish a taste vector for said user comprising song characteristics that said user prefers (section 0071 and section 0073, lines 20-34).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the human classification mechanism as taught by Weare in the invention of Blum et al. in order to make it possible to search for songs when user preferences or taste as an input (Weare, sections 0056 and 0057).

With respect to claim 6:

The teaching of Blum et al. further includes: using fast Fourier Transform techniques to establish a plurality of coefficients, wherein said coefficients are representative of said characteristics of said song (col. 6, lines 56-67; col. 7, lines 1-7 and lines 56-67 and col. 8, lines 1-6)

With respect to claims 7 and 8:

Blum et al. teach the method that includes the subject matter discussed above. Blum et al. do not mention explicitly: regarding claim 7, i) comparing said user's taste vector to each said song vector by summing the square of the difference between the numerical values of each characteristic in each said vector; and j) recommending to said user, a list of at least one song wherein the sum of the square of the difference between the numerical value of each characteristic in each said vector is below a predetermined threshold; regarding claim 8, k) enabling said user to listen to a song from said list of recommended songs and permitting said user to select to listen to more songs similar to said selection; l) comparing the song vector of said selected song to the song vector in the database by summing the square of the difference between the numerical values of each characteristic in each said vector; and m) recommending to said user, at least one song wherein the sum of the square of the difference between the numerical value of each characteristic in each said vector is below a predetermined threshold.

The teaching of Weare includes: i) comparing said user's taste vector to each said song vector by summing the square of the difference between the numerical values of each characteristic in each said vector (sections 0055, 0071-0073 and 0131); j) recommending to said user, a list of at least one song wherein the sum of the square of the difference between the numerical value of each characteristic in each said vector is below a predetermined threshold (section 0138); k) enabling said user to listen to a song from said list of recommended songs and permitting said user to select to listen to more songs similar to said selection (sections 0019-0023 and 0097); l) comparing the song vector of said selected song to the song vector in the database by summing the square of the difference between the numerical values of each characteristic in each said vector (sections 0055, 0071-0073 and 0131); and m) recommending to said user, at least one song wherein the sum of the square of the difference between the numerical value of each characteristic in each said vector is below a predetermined threshold (sections 0055, 0071-0073 and 0138).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the human classification mechanism as taught by

Weare in the invention of Blum et al. in order to make it possible to search for songs when user preferences or taste as an input (Weare, sections 0056 and 0057).

6. Claims 9-12, 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blum et al. (U.S. Pat. No. 5918223) in view of Specter et al. (U.S. Pub. No. 20020147628).

With respect to claims 9, 10 and 12:

Blum et al. teach a method of determining a user's music preference, said method comprising the steps of: a) providing a digital database comprising a plurality of digital song files (col. 5, lines 50-62); b) providing to said user a list of a plurality of songs selected from said database (col. 5, lines 64-67 and col. 6, lines 1-5).

Blum et al. do not mention expressly: regarding claim 9, c) permitting said user to subjectively label each song in said list of a plurality of songs according to said user's likes and dislikes; d) analyzing said song's from said list of a plurality of songs wherein said song's having been indicated as 'liked' by said user are separately analyzed from said song's having been indicated as 'disliked' by said user; e) determining a profile according to songs having been indicated as 'liked' by said user; regarding claim 10, said subjective labels are selected group consisting of: "I strongly like it"; "I somewhat like it"; "I neither like nor dislike it"; "I dislike it"; and "I strongly dislike it"; regarding claim 12, compiling a user taste vector comprising a sequential list of values for each characteristic wherein each such characteristic is weighted according to said user's subjective likes and dislikes.

Specter et al. teach a method and apparatus for generating recommendations for consumer preference items, including: c) permitting a user to subjectively label each song in a list of a plurality of songs according to said user's likes and dislikes (section 0031); d) analyzing said song's from said list of a plurality of songs wherein said song's having been indicated as 'liked' by said user are separately analyzed from said song's having been indicated as 'disliked' by said user (sections 0007 and 0033); e) determining a profile according to songs having been indicated as 'liked' by said user (sections 0010 and 0032); said subjective labels are selected group consisting of: "I strongly like it"; "I somewhat like it"; "I neither like nor dislike it"; "I dislike it"; and "I strongly dislike it" (section 0027); and compiling a user taste vector comprising a sequential list of values for each characteristic wherein each such characteristic is weighted according to said user's subjective likes and dislikes (section 0028).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teaching of Specter et al. in the invention of Blum et al. in order to generate substantial numbers of recommended items that accurately reflect a consumer's preferences (Specter et al., section 0008).

With respect to claim 11:

The teaching of Blum et al. further includes the steps of: d1) dividing each said song into a plurality of discrete parts (col. 5, lines 50-62 and col. 24, lines 25-34); d2) using Fast Fourier Transform techniques on each part of said song to establish a plurality of coefficients, wherein said coefficients are representative of characteristics of said selected song (col. 6, lines 56-67; col. 7, lines 1-7 and lines 56-67 and col. 8, lines

1-6); d3) determining an average value for each characteristic from each said part of said song (col.6, lines 24-44); d4) compiling a song vector comprising a sequential list of said average values for each said characteristic for said selected song file (col. 6, lines 45-52 and col. 8, lines 56-65); and d5) repeating steps d1) through d4) for each song in said list of a plurality of songs (col. 6, lines 6-9).

With respect to claim 15:

Blum et al. teach a method of comparing a new song to previously commercially successful songs, said method comprising: a) establishing a digital database comprising a plurality of digital song files (col. 5, lines 50-62); b) mathematically analyzing each said digital song file to determine a numerical value for a plurality of selected characteristics (col. 6, lines 56-67; col. 7, lines 1-7 and lines 56-67 and col. 8, lines 1-6); c) compiling a song vector comprising a sequential list of said numerical values for each of said plurality of selected characteristic for each said song file (col. 6, lines 45-52 and col. 8, lines 56-65); d) presenting said new song as a digital music file for comparison (col. 5, lines 64-67 and col. 6, lines 1-5); e) mathematically analyzing said new song file to determine a numerical value for said plurality of selected characteristics (col. 6, lines 24-38); f) compiling a new song vector comprising a sequential list of said numerical values for each of said plurality of selected characteristic for said new song file (col. 21, lines 66-67 and col. 22, lines 1-26); g) establishing an affinity value for said new song as compared to each song vector in the database by summing the square of the difference between the numerical values of each characteristic in each said vector (col. 21, lines 66-67 and col. 22, lines 1-26).

Blum et al. do not mention expressly: wherein said songs have been identified as commercially successful; and j) determining the potential for commercial success if said affinity value is below a predetermined threshold.

The teaching of Specter et al. further includes: establishing a digital database comprising a plurality of digital song files wherein said songs have been identified as commercially successful (sections 0007 and 0009); and determining the potential for commercial success if said affinity value is below a predetermined threshold (section 0024).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teaching of Specter et al. in the invention of Blum et al. in order to provide a better, more useful and practical system for making consumer preference item recommendations (Specter et al., Abstract).

With respect to claim 16:

The teaching of Blum et al. further includes: using fast Fourier Transform techniques to establish a plurality of coefficients, wherein said coefficients are representative of said characteristics of said song (col. 6, lines 56-67; col. 7, lines 1-7 and lines 56-67 and col. 8, lines 1-61).

7. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blum et al. (U.S. Pat. No. 5918223) in view of in view of Specter et al. (U.S. Pub. No. 20020147628), as applied to claims 9 and 12 above, and further in view of Weare (U.S. Pat. No. 20030045953).

Blum et al. and Specter et al. teach the method that includes the subject matter discussed above. The combination of Blum and Specter does not mention explicitly: regarding claim 13, i) comparing said user's taste vector to each said song vector by summing the square of the difference between the numerical values of each characteristic in each said vector; and j) recommending to said user, a list of at least one song wherein the sum of the square of the difference between the numerical value of each characteristic in each said vector is below a predetermined threshold; regarding claim 14, k) enabling said user to listen to a song from said list of recommended songs and permitting said user to select to listen to more songs similar to said selection; l) comparing the song vector of said selected song to the song vector in the database by summing the square of the difference between the numerical values of each characteristic in each said vector; and m) recommending to said user, at least one song wherein the sum of the square of the difference between the numerical value of each characteristic in each said vector is below a predetermined threshold.

Weare teaches: i) comparing a user's taste vector to each song vector by summing the square of the difference between the numerical values of each characteristic in each said vector (sections 0055, 0071-0073 and 0131); j) recommending to said user, a list of at least one song wherein the sum of the square of the difference between the numerical value of each characteristic in each said vector is below a predetermined threshold (section 0138); k) enabling said user to listen to a song from said list of recommended songs and permitting said user to select to listen to more songs similar to said selection (sections 0019-0023 and 0097); l) comparing the song vector of said selected song to the song vector in the database by summing the square of the difference between the numerical values of each characteristic in each said vector (sections 0055, 0071-0073 and 0131); and m) recommending to said user, at least one song wherein the sum of the square of the difference between the numerical value of each characteristic in each said vector is below a predetermined threshold (sections 0055, 0071-0073 and 0138).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the human classification mechanism as taught by Weare in the combination of Blum and Specter in order to make it possible to search for songs when user preferences or tastes as the inputs (Weare, sections 0056 and 0057).

Contact Information

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jianchun Qin whose telephone number is (571) 272-5981. The examiner can normally be reached on 8am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Martin can be reached on (571) 272-2107. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jianchun Qin
Examiner
Art Unit 2837

JQ
July 18, 2005

KIMBERLY LOCKETT
PRIMARY EXAMINER